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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Charles W. Norman

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EXAMINER

LI, SHI K

ART UNIT

PAPER NUMBER

2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/647,935

Applicant(s)

NORMAN, CHARLES W.

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, 4, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takehana et al. (U.S. Patent 6,081,359).

Regarding claims 1 and 17, Takehana et al. discloses in FIG. 2 a communication system comprising a transmitting system on the top portion of FIG. 2 (first point-of-presence) and a receiving system on the bottom portion of FIG. 2 (second point of presence). The transmitting system receives a first user communications from a first user system 1-1 whose data is transferred to the first point over λ_1 . When the first wavelength fails, the data is transferred to the first point over λ_r . The second point receives the first user communications from the optical network (the cable connecting first point and second point as illustrated in FIG. 1) and transfers the first user communications to a second user system 16-1.

Regarding claims 4 and 20, Takehana et al. teaches in FIG. 2 that the auxiliary system detects the problem.

3. Claims 1, 9, 17 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Oberg et al. (U.S. Patent 7,136,583).

Regarding claims 1 and 17, Oberg et al. teaches in FIG. 3 a communication system comprising a first user system 13.S for transmitting first user communication in first wavelength

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over a WDM working section and over the SDH protecting fiber 37 when the WDM system fails.

Regarding claims 9 and 25, Oberg et al. teaches in FIG. 3 different fibers for the different wavelengths.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-3 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehana et al. (U.S. Patent 6,081,359).

Takehana et al. has been discussed above in regard to claims 1, 4, 17 and 20. The difference between Takehana et al. and the claimed invention is that Takehana et al. does not teach using the first wavelength between user terminal 1-1 and transponder 2-1. However, the system of Takehana et al. is capable of using any wavelength between user terminal 1-1 and transponder 2-1. Furthermore, the claimed difference exist not as a result of an attempt by applicant to solve a problem but merely amounts to selection of expedients known to an artisan of ordinary skill as design choices. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use any wavelength between user terminal and transmitting system in the communication system of Takehana et al. as a design choice.

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6. Claims 5-8 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehana et al. (U.S. Patent 6,081,359) in view of Gerstel (U.S. Patent 7,099,578 B1) and Oberg et al. (U.S. Patent 7,136,583).

Takehana et al. has been discussed above in regard to claims 1, 4, 17 and 20. The difference between Takehana et al. and the claimed invention is that Takehana et al. does not teach detecting problem at other points of the communication network. Gerstel teaches in FIG. 2A a communication system with protection. Gerstel teaches in FIG. 2A monitor 3 and monitor 4' at the transmitting side and the receiving side, respectively. Oberg et al. teaches monitoring preamplifier 33 and 35 of FIG. 3. One of ordinary skill in the art would have been motivated to combine the teaching of Gerstel and Oberg et al. with the communication system of Takehana et al. because failure can occur anywhere and it is important to detect failure immediately and to switch over to the protection path as soon as possible to minimize the negative effects on customer traffic. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor traffic at various point, as taught by Gerstel and Oberg et al., in the communication system of Takehana et al. because failure can occur anywhere and it is important to detect failure immediately and to switch over to the protection path as soon as possible to minimize the negative effects on customer traffic.

7. Claims 10-11, 13, 15, 26-27, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehana et al. (U.S. Patent 6,081,359) in view of Takachio et al. (U.S. Patent 7,164,861 B2).

Takehana et al. has been discussed above in regard to claims 1, 4, 17 and 20. The difference between Takehana et al. and the claimed invention is that Takehana et al. does not

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teach an add/drop multiplexer. Takachio et al. teaches in FIG. 1 the entire constitution of a WDM network. Takachio et al. teaches in FIG. 7 that ONUs (equivalent to user terminals) are connected to node 24b, which is an add/drop multiplexer, via WDM technique. Node 24b is connected to ONUs residing in other access nodes via other networks. Also, SONET standard is well known in the art and one ordinary skill is motivated to use SONET standard for transferring signal over wavelength channels because SONET format is efficient and SONET equipment is widely available. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use SONET ADM for adding/dropping user communication traffic to/from the WDM network, as taught by Takachio et al., and use 1:N protection, as taught by Takehana et al. because 1:N protection scheme allows more traffic to be carried on the same amount of fibers.

Regarding claims 10 and 26, Takachio et al. teaches in FIG. 7 bi-directional traffic for each user and that different wavelengths are used for the different directions.

Regarding claims 11 and 27, Takachio et al. teaches in FIG. 8 optical switch 114 for switching between working channel and protection channel.

Regarding claims 13, 15, 29 and 31, Takachio et al. teaches in FIG. 7 WDM system for transferring signals between ONUs and ADM.

8. Claims 12, 14, 16, 28, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehana et al. and Takachio et al. as applied to claims 10-11, 13, 15, 26-27, 29 and 31 above, and further in view of Hayashi et al. (U.S. patent 7,151,893 B2).

Takehana et al. and Takachio et al. have been discussed above in regard to claims 10-11, 13, 15, 26-27, 29 and 31. The difference between Takehana et al. and Takachio et al. and the

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claimed invention is that Takehana et al. and Takachio et al. do not teach monitoring problems at various points. However, monitoring signal at various points to ensure network integrity is well known in the art. For example, Hayashi et al. teaches in FIG. 1 various monitoring points for an optical network. One of ordinary skill in the art would have been motivated to combine the teaching of Hayashi et al. with the modified optical communication system of Takehana et al. and Takachio et al. because monitoring at various points allows pinpointing the exact location of problem and dispatching craftsperson to repair the failed part or module. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor and detect problem at various points throughout the network, as taught by Hayashi et al., in the modified optical communication system of Takehana et al. and Takachio et al. because monitoring at various points allows pinpointing the exact location of problem and dispatching craftsperson to repair the failed part or module.

Response to Arguments

9. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (7:30 a.m. - 4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

skl
16 April 2007


Shi K. Li
Patent Examiner